



SEQUENCE LISTING

<110> Shaw , Jei-Fu
Lai, Chia-Ping

<120> PLANT TUBBY-LIKE PROTEINS

<130> 08919-099001

<140> US 10/763,042

<141> 2004-01-21

<150> US 60/441,380

<151> 2004-01-21

<160> 48

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 450

<212> PRT

<213> Arabidopsis sp.

<400> 1

Met	Ser	Phe	Arg	Ser	Ile	Val	Arg	Asp	Val	Arg	Asp	Ser	Ile	Gly	Ser
1				5					10					15	
Leu	Ser	Arg	Arg	Ser	Phe	Asp	Phe	Lys	Leu	Ser	Ser	Leu	Asn	Lys	Glu
			20					25					30		
Gly	Gly	Lys	Ser	Arg	Gly	Ser	Val	Gln	Asp	Ser	His	Glu	Glu	Gln	Leu
		35					40					45			
Val	Val	Thr	Ile	Gln	Glu	Thr	Pro	Trp	Ala	Asn	Leu	Pro	Pro	Glu	Leu
		50				55					60				
Leu	Arg	Asp	Val	Ile	Lys	Arg	Leu	Glu	Glu	Ser	Glu	Ser	Val	Trp	Pro
65					70					75					80
Ala	Arg	Arg	His	Val	Val	Ala	Cys	Ala	Ser	Val	Cys	Arg	Ser	Trp	Arg
			85						90					95	
Asp	Met	Cys	Lys	Glu	Ile	Val	Gln	Ser	Pro	Glu	Leu	Ser	Gly	Lys	Ile
			100					105					110		
Thr	Phe	Pro	Val	Ser	Leu	Lys	Gln	Pro	Gly	Pro	Arg	Asp	Ala	Thr	Met
		115					120					125			
Gln	Cys	Phe	Ile	Lys	Arg	Asp	Lys	Ser	Asn	Leu	Thr	Tyr	His	Leu	Tyr
	130					135					140				
Leu	Cys	Leu	Ser	Pro	Ala	Leu	Leu	Val	Glu	Asn	Gly	Lys	Phe	Leu	Leu
145					150					155					160
Ser	Ala	Lys	Arg	Ile	Arg	Arg	Thr	Thr	Tyr	Thr	Glu	Tyr	Val	Ile	Ser
			165						170					175	
Met	His	Ala	Asp	Thr	Ile	Ser	Arg	Ser	Ser	Asn	Thr	Tyr	Ile	Gly	Lys
			180					185					190		
Ile	Arg	Ser	Asn	Phe	Leu	Gly	Thr	Lys	Phe	Ile	Ile	Tyr	Asp	Thr	Gln
		195					200					205			
Pro	Ala	Tyr	Asn	Ser	Asn	Ile	Ala	Arg	Ala	Val	Gln	Pro	Val	Gly	Leu
	210					215					220				
Ser	Arg	Arg	Phe	Tyr	Ser	Lys	Arg	Val	Ser	Pro	Lys	Val	Pro	Ser	Gly

```

225          230          235          240
Ser Tyr Lys Ile Ala Gln Val Ser Tyr Glu Leu Asn Val Leu Gly Thr
          245          250          255
Arg Gly Pro Arg Arg Met His Cys Ala Met Asn Ser Ile Pro Ala Ser
          260          265          270
Ser Leu Ala Glu Gly Gly Thr Val Pro Gly Gln Pro Asp Ile Ile Val
          275          280          285
Pro Arg Ser Ile Leu Asp Glu Ser Phe Arg Ser Ile Thr Ser Ser Ser
          290          295          300
Ser Arg Lys Ile Thr Tyr Asp Tyr Ser Asn Asp Phe Ser Ser Ala Arg
305          310          315          320
Phe Ser Asp Ile Leu Gly Pro Leu Ser Glu Asp Gln Glu Val Val Leu
          325          330          335
Glu Glu Gly Lys Glu Arg Asn Ser Pro Pro Leu Val Leu Lys Asn Lys
          340          345          350
Pro Pro Arg Trp His Glu Gln Leu Gln Cys Trp Cys Leu Asn Phe Arg
          355          360          365
Gly Arg Val Thr Val Ala Ser Val Lys Asn Phe Gln Leu Ile Ala Ala
          370          375          380
Asn Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Gln Pro Leu
385          390          395          400
Thr Gln Pro Gln Pro Ser Gly Gln Thr Asp Gly Pro Asp Lys Ile Ile
          405          410          415
Leu Gln Phe Gly Lys Val Gly Lys Asp Met Phe Thr Met Asp Phe Arg
          420          425          430
Tyr Pro Leu Ser Ala Phe Gln Ala Phe Ala Ile Cys Leu Ser Ser Phe
          435          440          445
Asp Thr
          450

```

<210> 2

<211> 394

<212> PRT

<213> Arabidopsis sp.

<400> 2

```

Met Ser Leu Lys Ser Ile Leu Arg Asp Leu Lys Glu Val Arg Asp Gly
  1          5          10          15
Leu Gly Gly Ile Ser Lys Arg Ser Trp Ser Lys Ser Ser His Ile Ala
          20          25          30
Pro Asp Gln Thr Thr Pro Pro Leu Asp Asn Ile Pro Gln Ser Pro Trp
          35          40          45
Ala Ser Leu Pro Pro Glu Leu Leu His Asp Ile Ile Trp Arg Val Glu
          50          55          60
Glu Ser Glu Thr Ala Trp Pro Ala Arg Ala Ala Val Val Ser Cys Ala
65          70          75          80
Ser Val Cys Lys Ser Trp Arg Gly Ile Thr Met Glu Ile Val Arg Ile
          85          90          95
Pro Glu Gln Cys Gly Lys Leu Thr Phe Pro Ile Ser Leu Lys Gln Pro
          100          105          110
Gly Pro Arg Asp Ser Pro Ile Gln Cys Phe Ile Lys Arg Asn Arg Ala
          115          120          125
Thr Ala Thr Tyr Ile Leu Tyr Tyr Gly Leu Met Pro Ser Glu Thr Glu
          130          135          140
Asn Asp Lys Leu Leu Leu Ala Ala Arg Arg Ile Arg Arg Ala Thr Cys
145          150          155          160
Thr Asp Phe Ile Ile Ser Leu Ser Ala Lys Asn Phe Ser Arg Ser Ser

```

165 170 175
 Ser Thr Tyr Val Gly Lys Leu Arg Ser Gly Phe Leu Gly Thr Lys Phe
 180 185 190
 Thr Ile Tyr Asp Asn Gln Thr Ala Ser Ser Thr Ala Gln Ala Gln Pro
 195 200 205
 Asn Arg Arg Leu His Pro Lys Gln Ala Ala Pro Lys Leu Pro Thr Asn
 210 215 220
 Ser Ser Thr Val Gly Asn Ile Thr Tyr Glu Leu Asn Val Leu Arg Thr
 225 230 235 240
 Arg Gly Pro Arg Arg Met His Cys Ala Met Asp Ser Ile Pro Leu Ser
 245 250 255
 Ser Val Ile Ala Glu Pro Ser Val Val Gln Gly Ile Glu Glu Glu Val
 260 265 270
 Ser Ser Ser Pro Ser Pro Lys Gly Glu Thr Ile Thr Thr Asp Lys Glu
 275 280 285
 Ile Pro Asp Asn Ser Pro Ser Leu Arg Asp Gln Pro Leu Val Leu Lys
 290 295 300
 Asn Lys Ser Pro Arg Trp His Glu Gln Leu Gln Cys Trp Cys Leu Asn
 305 310 315 320
 Phe Lys Gly Arg Val Thr Val Ala Ser Val Lys Asn Phe Gln Leu Val
 325 330 335
 Ala Glu Ile Asp Ala Ser Leu Asp Ala Pro Pro Glu Glu His Glu Arg
 340 345 350
 Val Ile Leu Gln Phe Gly Lys Ile Gly Lys Asp Ile Phe Thr Met Asp
 355 360 365
 Tyr Arg Tyr Pro Leu Ser Ala Phe Gln Ala Phe Ala Ile Cys Ile Ser
 370 375 380
 Ser Phe Asp Thr Lys Pro Ala Cys Glu Gly
 385 390

<210> 3

<211> 406

<212> PRT

<213> Arabidopsis sp.

<400> 3

Met Ser Phe Lys Ser Leu Ile Gln Asp Met Arg Gly Glu Leu Gly Ser
 1 5 10 15
 Ile Ser Arg Lys Gly Phe Asp Val Arg Phe Gly Tyr Gly Arg Ser Arg
 20 25 30
 Ser Gln Arg Val Val Gln Asp Thr Ser Val Pro Val Asp Ala Phe Lys
 35 40 45
 Gln Ser Cys Trp Ala Ser Met Pro Pro Glu Leu Leu Arg Asp Val Leu
 50 55 60
 Met Arg Ile Glu Gln Ser Glu Asp Thr Trp Pro Ser Arg Lys Asn Val
 65 70 75 80
 Val Ser Cys Ala Gly Val Cys Arg Asn Trp Arg Glu Ile Val Lys Glu
 85 90 95
 Ile Val Arg Val Pro Glu Leu Ser Ser Lys Leu Thr Phe Pro Ile Ser
 100 105 110
 Leu Lys Gln Pro Gly Pro Arg Gly Ser Leu Val Gln Cys Tyr Ile Met
 115 120 125
 Arg Asn Arg Ser Asn Gln Thr Tyr Tyr Leu Tyr Leu Gly Leu Asn Gln
 130 135 140
 Ala Ala Ser Asn Asp Asp Gly Lys Phe Leu Leu Ala Ala Lys Arg Phe
 145 150 155 160
 Arg Arg Pro Thr Cys Thr Asp Tyr Ile Ile Ser Leu Asn Cys Asp Asp

				165					170					175			
Val	Ser	Arg	Gly	Ser	Asn	Thr	Tyr	Ile	Gly	Lys	Leu	Arg	Ser	Asn	Phe		
			180					185					190				
Leu	Gly	Thr	Lys	Phe	Thr	Val	Tyr	Asp	Ala	Gln	Pro	Thr	Asn	Pro	Gly		
		195					200					205					
Thr	Gln	Val	Thr	Arg	Thr	Arg	Ser	Ser	Arg	Leu	Leu	Ser	Leu	Lys	Gln		
	210					215					220						
Val	Ser	Pro	Arg	Ile	Pro	Ser	Gly	Asn	Tyr	Pro	Val	Ala	His	Ile	Ser		
225					230					235					240		
Tyr	Glu	Leu	Asn	Val	Leu	Gly	Ser	Arg	Gly	Pro	Arg	Arg	Met	Gln	Cys		
			245					250						255			
Val	Met	Asp	Ala	Ile	Pro	Ala	Ser	Ala	Val	Glu	Pro	Gly	Gly	Thr	Ala		
		260						265					270				
Pro	Thr	Gln	Thr	Glu	Leu	Val	His	Ser	Asn	Leu	Asp	Ser	Phe	Pro	Ser		
		275					280					285					
Phe	Ser	Phe	Phe	Arg	Ser	Lys	Ser	Ile	Arg	Ala	Glu	Ser	Leu	Pro	Ser		
	290					295					300						
Gly	Pro	Ser	Ser	Ala	Ala	Gln	Lys	Glu	Gly	Leu	Leu	Val	Leu	Lys	Asn		
305				310						315					320		
Lys	Ala	Pro	Arg	Trp	His	Glu	Gln	Leu	Gln	Cys	Trp	Cys	Leu	Asn	Phe		
			325					330						335			
Asn	Gly	Arg	Val	Thr	Val	Ala	Ser	Val	Lys	Asn	Phe	Gln	Leu	Val	Ala		
		340						345				350					
Ala	Pro	Glu	Asn	Gly	Pro	Ala	Gly	Pro	Glu	His	Glu	Asn	Val	Ile	Leu		
		355				360					365						
Gln	Phe	Gly	Lys	Val	Gly	Lys	Asp	Val	Phe	Thr	Met	Asp	Tyr	Gln	Tyr		
	370				375					380							
Pro	Ile	Ser	Ala	Phe	Gln	Ala	Phe	Thr	Ile	Cys	Leu	Ser	Ser	Phe	Asp		
385					390					395					400		
Thr	Lys	Ile	Ala	Cys	Glu												
				405													

<210> 4

<211> 265

<212> PRT

<213> Arabidopsis sp.

<400> 4

Met	Pro	Pro	Glu	Leu	Leu	Arg	Asp	Val	Leu	Met	Arg	Ile	Glu	Arg	Ser		
1				5				10					15				
Glu	Asp	Thr	Trp	Pro	Ser	Arg	Lys	Asn	Val	Val	Ser	Cys	Val	Gly	Val		
		20						25				30					
Cys	Lys	Asn	Trp	Arg	Gln	Ile	Phe	Lys	Glu	Ile	Val	Asn	Val	Pro	Glu		
		35				40					45						
Val	Ser	Ser	Lys	Phe	Thr	Phe	Pro	Ile	Ser	Leu	Lys	Gln	Pro	Gly	Pro		
	50					55					60						
Gly	Gly	Ser	Leu	Val	Gln	Cys	Tyr	Val	Lys	Arg	Asn	Arg	Ser	Asn	Gln		
65					70					75					80		
Thr	Phe	Tyr	Leu	Tyr	Leu	Gly	Gly	Glu	Ala	Lys	Ile	Phe	Cys	Gln	Ser		
			85					90						95			
Glu	Pro	Ser	Asp	Ile	Tyr	Leu	Val	Pro	Tyr	Ser	Tyr	Arg	Glu	Thr	His		
		100						105				110					
Cys	Val	Met	Asp	Ala	Ile	Ser	Ala	Ser	Ala	Val	Lys	Pro	Gly	Gly	Thr		
		115				120					125						
Ala	Thr	Thr	Gln	Thr	Glu	Leu	Asp	Asn	Phe	Val	Ser	Phe	Arg	Ser	Pro		
	130					135					140						
Ser	Gly	Gln	Lys	Glu	Gly	Val	Leu	Val	Leu	Lys	Ser	Lys	Val	Pro	Arg		

```

145          150          155          160
Leu Glu Glu Gln Ser Trp Cys Leu Asp Phe Asn Gly Ser Pro Glu Asn
          165          170          175
Glu Pro Glu Asn Glu Asn Asp Ile Phe Gln Phe Ala Lys Val Gly Asn
          180          185          190
Leu His Lys Leu Phe Ser Leu Tyr Glu Ala Glu Trp Ile Pro Leu Val
          195          200          205
Arg Thr Ser Val Phe Ala Val Ile Ala Arg Val Cys Arg Asp Lys Lys
          210          215          220
His Thr Pro Ser Tyr Glu Leu Lys Leu Ala Leu Tyr Phe Ala Lys Asn
225          230          235          240
Ser Ala Ile Leu Lys Lys Phe Val Leu Arg Gly Tyr Thr Arg Glu Glu
          245          250          255
Asp Leu Leu Ala Leu Pro Val Ala Asn
          260          265

```

```

<210> 5
<211> 429
<212> PRT
<213> Arabidopsis sp.

```

```

<400> 5
Met Ser Phe Leu Ser Ile Val Arg Asp Val Arg Asp Thr Val Gly Ser
 1          5          10          15
Phe Ser Arg Arg Ser Phe Asp Val Arg Val Ser Asn Gly Thr Thr His
          20          25          30
Gln Arg Ser Lys Ser His Gly Val Glu Ala His Ile Glu Asp Leu Ile
          35          40          45
Val Ile Lys Asn Thr Arg Trp Ala Asn Leu Pro Ala Ala Leu Leu Arg
          50          55          60
Asp Val Met Lys Lys Leu Asp Glu Ser Glu Ser Thr Trp Pro Ala Arg
65          70          75          80
Lys Gln Val Val Ala Cys Ala Gly Val Cys Lys Thr Trp Arg Leu Met
          85          90          95
Cys Lys Asp Ile Val Lys Ser Pro Glu Phe Ser Gly Lys Leu Thr Phe
          100          105          110
Pro Val Ser Leu Lys Gln Pro Gly Pro Arg Asp Gly Ile Ile Gln Cys
          115          120          125
Tyr Ile Lys Arg Asp Lys Ser Asn Met Thr Tyr His Leu Tyr Leu Ser
          130          135          140
Leu Ser Pro Ala Ile Leu Val Glu Ser Gly Lys Phe Leu Leu Ser Ala
145          150          155          160
Lys Arg Ser Arg Arg Ala Thr Tyr Thr Glu Tyr Val Ile Ser Met Asp
          165          170          175
Ala Asp Asn Ile Ser Arg Ser Ser Ser Thr Tyr Ile Gly Lys Leu Lys
          180          185          190
Ser Asn Phe Leu Gly Thr Lys Phe Ile Val Tyr Asp Thr Ala Pro Ala
          195          200          205
Tyr Asn Ser Ser Gln Ile Leu Ser Pro Pro Asn Arg Ser Arg Ser Phe
          210          215          220
Asn Ser Lys Lys Val Ser Pro Lys Val Pro Ser Gly Ser Tyr Asn Ile
225          230          235          240
Ala Gln Val Thr Tyr Glu Leu Asn Leu Leu Gly Thr Arg Gly Pro Arg
          245          250          255
Arg Met Asn Cys Ile Met His Ser Ile Pro Ser Leu Ala Leu Glu Pro
          260          265          270
Gly Gly Thr Val Pro Ser Gln Pro Glu Phe Leu Gln Arg Ser Leu Asp

```

275						280					285				
Glu	Ser	Phe	Arg	Ser	Ile	Gly	Ser	Ser	Lys	Ile	Val	Asn	His	Ser	Gly
290						295					300				
Asp	Phe	Thr	Arg	Pro	Lys	Glu	Glu	Glu	Gly	Lys	Val	Arg	Pro	Leu	Val
305	310					315					320				
Leu	Lys	Thr	Lys	Pro	Pro	Arg	Trp	Leu	Gln	Pro	Leu	Arg	Cys	Trp	Cys
325					330					335					
Leu	Asn	Phe	Lys	Gly	Arg	Val	Thr	Val	Ala	Ser	Val	Lys	Asn	Phe	Gln
340					345					350					
Leu	Met	Ser	Ala	Ala	Thr	Val	Gln	Pro	Gly	Ser	Gly	Ser	Asp	Gly	Gly
355					360					365					
Ala	Leu	Ala	Thr	Arg	Pro	Ser	Leu	Ser	Pro	Gln	Gln	Pro	Glu	Gln	Ser
370					375					380					
Asn	His	Asp	Lys	Ile	Ile	Leu	His	Phe	Gly	Lys	Val	Gly	Lys	Asp	Met
385	390					395					400				
Phe	Thr	Met	Asp	Tyr	Arg	Tyr	Pro	Leu	Ser	Ala	Phe	Gln	Ala	Phe	Ala
405					410					415					
Ile	Ser	Leu	Ser	Thr	Phe	Asp	Thr	Lys	Leu	Ala	Cys	Glu			
420					425										

<210> 6

<211> 388

<212> PRT

<213> Arabidopsis sp.

<400> 6

Met 1	Ser	Leu	Lys	Asn 5	Ile	Val	Lys	Asn	Lys 10	Tyr	Lys	Ala	Ile	Gly 15	Arg
Arg	Gly	Arg	Ser	His 20	Ile	Ala	Pro	Glu	Gly 25	Ser	Ser	Val	Ser	Ser	Ser
Leu	Ser	Thr	Asn	Glu 35	Gly	Leu	Asn	Gln	Ser 40	Ile	Trp	Val	Asp	Leu	Pro
Pro	Glu	Leu	Leu	Leu 50	Asp	Ile	Ile	Gln	Arg 55	Ile	Glu	Ser	Glu	Gln	Ser
Leu	Trp	Pro	Gly	Arg 65	Arg	Asp	Val	Val	Ala 70	Cys	Ala	Ser	Val	Cys	Lys
Ser	Trp	Arg	Glu	Met 85	Thr	Lys	Glu	Val	Val 90	Lys	Val	Pro	Glu	Leu	Ser
Gly	Leu	Ile	Thr	Phe 100	Pro	Ile	Ser	Leu	Arg 105	Gln	Pro	Gly	Pro	Arg	Asp
Ala	Pro	Ile	Gln	Cys 115	Phe	Ile	Lys	Arg	Glu 120	Arg	Ala	Thr	Gly	Ile	Tyr
Arg	Leu	Tyr	Leu	Gly 130	Leu	Ser	Pro	Ala	Leu 135	Ser	Gly	Asp	Lys	Ser	Lys
Leu	Leu	Leu	Ser	Ala 145	Lys	Arg	Val	Arg	Arg 150	Ala	Thr	Gly	Ala	Glu	Phe
Val	Val	Ser	Leu	Ser 165	Gly	Asn	Asp	Phe	Ser 170	Arg	Ser	Ser	Ser	Asn	Tyr
Ile	Gly	Lys	Leu	Arg 180	Ser	Asn	Phe	Leu	Gly 185	Thr	Lys	Phe	Thr	Val	Tyr
Glu	Asn	Gln	Pro	Pro 195	Pro	Phe	Asn	Arg	Lys 200	Leu	Pro	Pro	Ser	Met	Gln
Val	Ser	Pro	Trp	Val 210	Ser	Ser	Ser	Ser	Ser 215	Ser	Tyr	Asn	Ile	Ala	Ser
Ile	Leu	Tyr	Glu	Leu 225	Asn	Val	Leu	Arg	Thr 230	Arg	Gly	Pro	Arg	Arg	Met
Gln	Cys	Ile	Met	His 235	Ser	Ile	Pro	Ile	Ser 240	Ala	Ile	Gln	Glu	Gly	Gly

245 250 255
 Lys Ile Gln Ser Pro Thr Glu Phe Thr Asn Gln Gly Lys Lys Lys Lys
 260 265 270
 Lys Pro Leu Met Asp Phe Cys Ser Gly Asn Leu Gly Gly Glu Ser Val
 275 280 285
 Ile Lys Glu Pro Leu Ile Leu Lys Asn Lys Ser Pro Arg Trp His Glu
 290 295 300
 Gln Leu Gln Cys Trp Cys Leu Asn Phe Lys Gly Arg Val Thr Val Ala
 305 310 315 320
 Ser Val Lys Asn Phe Gln Leu Val Ala Ala Ala Glu Ala Gly Lys
 325 330 335
 Asn Met Asn Ile Pro Glu Glu Glu Gln Asp Arg Val Ile Leu Gln Phe
 340 345 350
 Gly Lys Ile Gly Lys Asp Ile Phe Thr Met Asp Tyr Arg Tyr Pro Ile
 355 360 365
 Ser Ala Phe Gln Ala Phe Ala Ile Cys Leu Ser Ser Phe Asp Thr Lys
 370 375 380
 Pro Val Cys Glu
 385

<210> 7

<211> 379

<212> PRT

<213> Arabidopsis sp.

<400> 7

Met Pro Leu Ser Arg Ser Leu Leu Ser Arg Arg Ile Ser Asn Ser Phe
 1 5 10 15
 Arg Phe His Gln Gly Glu Thr Thr Thr Ala Pro Glu Ser Glu Ser Ile
 20 25 30
 Pro Pro Pro Ser Asn Met Ala Gly Ser Ser Ser Trp Ser Ala Met Leu
 35 40 45
 Pro Glu Leu Leu Gly Glu Ile Ile Arg Arg Val Glu Glu Thr Glu Asp
 50 55 60
 Arg Trp Pro Gln Arg Arg Asp Val Val Thr Cys Ala Cys Val Ser Lys
 65 70 75 80
 Lys Trp Arg Glu Ile Thr His Asp Phe Ala Arg Ser Ser Leu Asn Ser
 85 90 95
 Gly Lys Ile Thr Phe Pro Ser Cys Leu Lys Leu Pro Gly Pro Arg Asp
 100 105 110
 Phe Ser Asn Gln Cys Leu Ile Lys Arg Asn Lys Lys Thr Ser Thr Phe
 115 120 125
 Tyr Leu Tyr Leu Ala Leu Thr Pro Ser Phe Thr Asp Lys Gly Lys Phe
 130 135 140
 Leu Leu Ala Ala Arg Arg Phe Arg Thr Gly Ala Tyr Thr Glu Tyr Ile
 145 150 155 160
 Ile Ser Leu Asp Ala Asp Asp Phe Ser Gln Gly Ser Asn Ala Tyr Val
 165 170 175
 Gly Lys Leu Arg Ser Asp Phe Leu Gly Thr Asn Phe Thr Val Tyr Asp
 180 185 190
 Ser Gln Pro Pro His Asn Gly Ala Lys Pro Ser Asn Gly Lys Ala Ser
 195 200 205
 Arg Arg Phe Ala Ser Lys Gln Ile Ser Pro Gln Val Pro Ala Gly Asn
 210 215 220
 Phe Glu Val Gly His Val Ser Tyr Lys Phe Asn Leu Leu Lys Ser Arg
 225 230 235 240
 Gly Pro Arg Arg Met Val Ser Thr Leu Arg Cys Pro Ser Pro Ser Pro

				245					250					255		
Ser	Ser	Ser	Ser	Ala	Gly	Leu	Ser	Ser	Asp	Gln	Lys	Pro	Cys	Asp	Val	
			260					265					270			
Thr	Lys	Ile	Met	Lys	Lys	Pro	Asn	Lys	Asp	Gly	Ser	Ser	Leu	Thr	Ile	
		275					280					285				
Leu	Lys	Asn	Lys	Ala	Pro	Arg	Trp	His	Glu	His	Leu	Gln	Cys	Trp	Cys	
	290					295					300					
Leu	Asn	Phe	His	Gly	Arg	Val	Thr	Val	Ala	Ser	Val	Lys	Asn	Phe	Gln	
305					310					315					320	
Leu	Val	Ala	Thr	Val	Asp	Gln	Ser	Gln	Pro	Ser	Gly	Lys	Gly	Asp	Glu	
				325					330					335		
Glu	Thr	Val	Leu	Gln	Phe	Gly	Lys	Val	Gly	Asp	Asp	Thr	Phe	Thr		
		340					345					350				
Met	Asp	Tyr	Arg	Gln	Pro	Leu	Ser	Ala	Phe	Gln	Ala	Phe	Ala	Ile	Cys	
	355					360						365				
Leu	Thr	Ser	Phe	Gly	Thr	Lys	Leu	Ala	Cys	Glu						
	370					375										

<210> 8

<211> 397

<212> PRT

<213> Arabidopsis sp.

<400> 8

Met	Ala	Gly	Ser	Arg	Lys	Val	Asn	Asp	Leu	Leu	Glu	Glu	Asn	Lys	Gly	
1				5					10					15		
Asn	Val	Asp	Thr	Ile	Thr	Gly	Ser	Leu	Ser	Thr	Gln	Lys	Gly	Glu	Asp	
		20					25						30			
Lys	Glu	Asn	Val	Ser	Pro	Glu	Lys	Val	Ser	Thr	Ser	Val	Glu	Thr	Arg	
	35					40						45				
Lys	Leu	Asp	Arg	Ala	Leu	Lys	Ser	Gln	Ser	Met	Lys	Gly	Asn	Ser	Gly	
	50					55					60					
Phe	Pro	Thr	Glu	Val	Thr	Asn	Phe	Lys	Ser	Phe	Ser	Thr	Gly	Gly	Arg	
65				70						75					80	
Thr	Ala	Leu	Lys	Gln	Ser	Ser	Leu	Gln	Ala	Cys	Met	Gln	Lys	Asn	Ser	
				85					90					95		
Glu	Val	Asp	Lys	Ser	Ser	Phe	Gly	Met	Lys	Thr	Trp	Thr	Ser	Val	Asp	
		100						105					110			
Ser	Glu	His	Ser	Ser	Ser	Leu	Lys	Val	Trp	Glu	Phe	Ser	Asp	Ser	Glu	
		115					120					125				
Ala	Ala	Pro	Ala	Ser	Ser	Trp	Ser	Thr	Leu	Pro	Asn	Arg	Ala	Leu	Leu	
	130					135					140					
Cys	Lys	Thr	Leu	Pro	Leu	Asp	Val	Gly	Arg	Cys	Thr	Cys	Leu	Ile	Val	
145					150					155					160	
Lys	Glu	Gln	Ser	Pro	Glu	Gly	Leu	Ser	His	Gly	Ser	Val	Tyr	Ser	Leu	
			165						170					175		
Tyr	Thr	His	Glu	Gly	Arg	Gly	Arg	Lys	Asp	Arg	Lys	Leu	Ala	Val	Ala	
		180						185					190			
Tyr	His	Ser	Arg	Arg	Asn	Gly	Lys	Ser	Ile	Phe	Arg	Val	Ala	Gln	Asn	
		195					200					205				
Val	Lys	Gly	Leu	Leu	Cys	Ser	Ser	Asp	Glu	Ser	Tyr	Val	Gly	Ser	Met	
	210					215					220					
Thr	Ala	Asn	Leu	Leu	Gly	Ser	Lys	Tyr	Tyr	Ile	Trp	Asp	Lys	Gly	Val	
225					230					235					240	
Arg	Val	Gly	Ser	Val	Gly	Lys	Met	Val	Lys	Pro	Leu	Leu	Ser	Val	Val	
				245					250					255		
Ile	Phe	Thr	Pro	Thr	Ile	Thr	Thr	Trp	Thr	Gly	Ser	Tyr	Arg	Arg	Met	

			260					265					270			
Arg	Thr	Leu	Leu	Pro	Lys	Gln	Gln	Pro	Met	Gln	Lys	Asn	Asn	Asn	Lys	
		275					280					285				
Gln	Val	Gln	Gln	Ala	Ser	Lys	Leu	Pro	Leu	Asp	Trp	Leu	Glu	Asn	Lys	
		290					295					300				
Glu	Lys	Ile	Gln	Lys	Leu	Cys	Ser	Arg	Ile	Pro	His	Tyr	Asn	Lys	Ile	
305					310					315					320	
Ser	Lys	Gln	His	Glu	Leu	Asp	Phe	Arg	Asp	Arg	Gly	Arg	Thr	Gly	Leu	
				325					330					335		
Arg	Ile	Gln	Ser	Ser	Val	Lys	Asn	Phe	Gln	Leu	Thr	Leu	Thr	Glu	Thr	
		340					345					350				
Pro	Arg	Gln	Thr	Ile	Leu	Gln	Met	Gly	Arg	Val	Asp	Lys	Ala	Arg	Tyr	
		355					360					365				
Val	Ile	Asp	Phe	Arg	Tyr	Pro	Phe	Ser	Gly	Tyr	Gln	Ala	Phe	Cys	Ile	
		370					375					380				
Cys	Leu	Ala	Ser	Ile	Asp	Ser	Lys	Leu	Cys	Cys	Thr	Val				
385					390					395						

```
<210> 9
<211> 380
<212> PRT
<213> Arabidopsis sp.
```

<400> 9																
Met 1	Thr	Phe	Arg	Ser 5	Leu	Leu	Gln	Glu	Met 10	Arg	Ser	Arg	Pro 15	His	Arg	
Val	Val	His	Ala 20	Ala	Ala	Ser	Thr	Ala 25	Asn	Ser	Ser	Asp 30	Pro	Phe	Ser	
Trp	Ser	Glu 35	Leu	Pro	Glu	Glu	Leu 40	Leu	Arg	Glu	Ile	Leu 45	Ile	Arg	Val	
Glu	Thr 50	Val	Asp	Gly	Gly 55	Asp	Trp	Pro	Ser	Arg	Arg 60	Asn	Val	Val	Ala	
Cys 65	Ala	Gly	Val	Cys 70	Arg	Ser	Trp	Arg	Ile	Leu 75	Thr	Lys	Glu	Ile	Val	
Ala	Val	Pro	Glu	Phe 85	Ser	Ser	Lys	Leu	Thr 90	Phe	Pro	Ile	Ser	Leu	Lys	
Gln	Ser	Gly	Pro 100	Arg	Asp	Ser	Leu	Val 105	Gln	Cys	Phe	Ile	Lys	Arg	Asn	
Arg	Asn 115	Thr	Gln	Ser	Tyr	His	Leu 120	Tyr	Leu	Gly	Leu	Thr 125	Thr	Ser	Leu	
Thr	Asp 130	Asn	Gly	Lys	Phe	Leu	Leu 135	Ala	Ala	Ser	Lys	Leu 140	Lys	Arg	Ala	
Thr 145	Cys	Thr	Asp	Tyr 150	Ile	Ile	Ser	Leu	Arg	Ser	Asp	Asp 155	Ile	Ser	Lys	
Arg	Ser	Asn	Ala 165	Tyr	Leu	Gly	Arg	Met	Arg 170	Ser	Asn	Phe	Leu	Gly	Thr	
Lys	Phe	Thr	Val 180	Phe	Asp	Gly	Ser	Gln	Thr 185	Gly	Ala	Ala 190	Lys	Met	Gln	
Lys	Ser	Arg 195	Ser	Ser	Asn	Phe	Ile 200	Lys	Val	Ser	Pro	Arg 205	Val	Pro	Gln	
Gly	Ser 210	Tyr	Pro	Ile	Ala	His 215	Ile	Ser	Tyr	Glu	Leu	Asn 220	Val	Leu	Gly	
Ser 225	Arg	Gly	Pro	Arg 230	Arg	Met	Arg	Cys	Ile	Met 235	Asp	Thr	Ile	Pro	Met	
Ser	Ile	Val	Glu	Ser 245	Arg	Gly	Val	Val	Ala 250	Ser	Thr	Ser	Ile	Ser	Ser	
Phe	Ser	Ser	Arg	Ser	Ser	Pro	Val	Phe	Arg	Ser	His	Ser	Lys	Pro	Leu	

260							265					270				
Arg	Ser	Asn	Ser	Ala	Ser	Cys	Ser	Asp	Ser	Gly	Asn	Asn	Leu	Gly	Asp	
275							280					285				
Pro	Pro	Leu	Val	Leu	Ser	Asn	Lys	Ala	Pro	Arg	Trp	His	Glu	Gln	Leu	
290							295					300				
Arg	Cys	Trp	Cys	Leu	Asn	Phe	His	Gly	Arg	Val	Thr	Val	Ala	Ser	Val	
305							310					315				
Lys	Asn	Phe	Gln	Leu	Val	Ala	Val	Ser	Asp	Cys	Glu	Ala	Gly	Gln	Thr	
320							325					330				
Ser	Glu	Arg	Ile	Ile	Leu	Gln	Phe	Gly	Lys	Val	Gly	Lys	Asp	Met	Phe	
335							340					345				
Thr	Met	Asp	Tyr	Gly	Tyr	Pro	Ile	Ser	Ala	Phe	Gln	Ala	Phe	Ala	Ile	
350							355					360				
Cys	Leu	Ser	Ser	Phe	Glu	Thr	Arg	Ile	Ala	Cys	Glu					
365							370					375				
370							375					380				

```
<210> 10
<211> 445
<212> PRT
<213> Arabidopsis sp.
```

<400> 10																
Met	Ser	Phe	Arg	Gly	Ile	Val	Gln	Asp	Leu	Arg	Asp	Gly	Phe	Gly	Ser	
1				5					10					15		
Leu	Ser	Arg	Arg	Ser	Phe	Asp	Phe	Arg	Leu	Ser	Ser	Leu	His	Lys	Gly	
			20					25					30			
Lys	Ala	Gln	Gly	Ser	Ser	Phe	Arg	Glu	Tyr	Ser	Ser	Ser	Arg	Asp	Leu	
		35					40					45				
Leu	Ser	Pro	Val	Ile	Val	Gln	Thr	Ser	Arg	Trp	Ala	Asn	Leu	Pro	Pro	
	50					55					60					
Glu	Leu	Leu	Phe	Asp	Val	Ile	Lys	Arg	Leu	Glu	Glu	Ser	Glu	Ser	Asn	
65				70						75					80	
Trp	Pro	Ala	Arg	Lys	His	Val	Val	Ala	Cys	Ala	Ser	Val	Cys	Arg	Ser	
			85						90					95		
Trp	Arg	Ala	Met	Cys	Gln	Glu	Ile	Val	Leu	Gly	Pro	Glu	Ile	Cys	Gly	
		100						105					110			
Lys	Leu	Thr	Phe	Pro	Val	Ser	Leu	Lys	Gln	Pro	Gly	Pro	Arg	Asp	Ala	
		115						120				125				
Met	Ile	Gln	Cys	Phe	Ile	Lys	Arg	Asp	Lys	Ser	Lys	Leu	Thr	Phe	His	
	130					135					140					
Leu	Phe	Leu	Cys	Leu	Ser	Pro	Ala	Leu	Leu	Val	Glu	Asn	Gly	Lys	Phe	
145				150						155					160	
Leu	Leu	Ser	Ala	Lys	Arg	Thr	Arg	Arg	Thr	Thr	Arg	Thr	Glu	Tyr	Ile	
			165					170						175		
Ile	Ser	Met	Asp	Ala	Asp	Asn	Ile	Ser	Arg	Ser	Ser	Asn	Ser	Tyr	Leu	
		180						185					190			
Gly	Lys	Leu	Arg	Ser	Asn	Phe	Leu	Gly	Thr	Lys	Phe	Leu	Val	Tyr	Asp	
		195						200				205				
Thr	Gln	Pro	Pro	Pro	Asn	Thr	Ser	Ser	Ser	Ala	Leu	Ile	Thr	Asp	Arg	
	210					215					220					
Thr	Ser	Arg	Ser	Arg	Phe	His	Ser	Arg	Arg	Val	Ser	Pro	Lys	Val	Pro	
225				230						235					240	
Ser	Gly	Ser	Tyr	Asn	Ile	Ala	Gln	Ile	Thr	Tyr	Glu	Leu	Asn	Val	Leu	
			245					250						255		
Gly	Thr	Arg	Gly	Pro	Arg	Arg	Met	His	Cys	Ile	Met	Asn	Ser	Ile	Pro	
		260						265					270			
Ile	Ser	Ser	Leu	Glu	Pro	Gly	Gly	Ser	Val	Pro	Asn	Gln	Pro	Glu	Lys	

		275					280					285			
Leu	Val	Pro	Ala	Pro	Tyr	Ser	Leu	Asp	Asp	Ser	Phe	Arg	Ser	Asn	Ile
	290					295					300				
Ser	Phe	Ser	Lys	Ser	Ser	Phe	Asp	His	Arg	Ser	Leu	Asp	Phe	Ser	Ser
305					310					315					320
Ser	Arg	Phe	Ser	Glu	Met	Gly	Ile	Ser	Cys	Asp	Asp	Asn	Glu	Glu	Glu
				325					330					335	
Ala	Ser	Phe	Arg	Pro	Leu	Ile	Leu	Lys	Asn	Lys	Gln	Pro	Arg	Trp	His
			340					345					350		
Glu	Gln	Leu	Gln	Cys	Trp	Cys	Leu	Asn	Phe	Arg	Gly	Arg	Val	Thr	Val
		355					360					365			
Ala	Ser	Val	Lys	Asn	Phe	Gln	Leu	Val	Ala	Ala	Arg	Gln	Pro	Gln	Pro
		370				375					380				
Gln	Gly	Thr	Gly	Ala	Ala	Ala	Ala	Pro	Thr	Ser	Ala	Pro	Ala	His	Pro
385					390					395					400
Glu	Gln	Asp	Lys	Val	Ile	Leu	Gln	Phe	Gly	Lys	Val	Gly	Lys	Asp	Met
				405					410					415	
Phe	Thr	Met	Asp	Tyr	Arg	Tyr	Pro	Leu	Ser	Ala	Phe	Gln	Ala	Phe	Ala
			420					425					430		
Ile	Cys	Leu	Ser	Ser	Phe	Asp	Thr	Lys	Leu	Ala	Cys	Glu			
		435					440					445			

```
<210> 11
<211> 380
<212> PRT
<213> Arabidopsis sp.
```

<400>	11														
Met	Arg	Ser	Arg	Pro	His	Arg	Val	Val	His	Asp	Leu	Ala	Ala	Ala	Ala
1				5					10					15	
Ala	Ala	Asp	Ser	Thr	Ser	Val	Ser	Ser	Gln	Asp	Tyr	Arg	Trp	Ser	Glu
			20					25					30		
Ile	Pro	Glu	Glu	Leu	Leu	Arg	Glu	Ile	Leu	Ile	Arg	Val	Glu	Ala	Ala
		35					40					45			
Asp	Gly	Gly	Gly	Trp	Pro	Ser	Arg	Arg	Ser	Val	Val	Ala	Cys	Ala	Gly
	50					55					60				
Val	Cys	Arg	Gly	Trp	Arg	Leu	Leu	Met	Asn	Glu	Thr	Val	Val	Val	Pro
65					70					75					80
Glu	Ile	Ser	Ser	Lys	Leu	Thr	Phe	Pro	Ile	Ser	Leu	Lys	Gln	Pro	Gly
				85					90					95	
Pro	Arg	Asp	Ser	Leu	Val	Gln	Cys	Phe	Ile	Lys	Arg	Asn	Arg	Ile	Thr
			100					105					110		
Gln	Ser	Tyr	His	Leu	Tyr	Leu	Gly	Leu	Thr	Asn	Ser	Leu	Thr	Asp	Asp
		115					120					125			
Gly	Lys	Phe	Leu	Leu	Ala	Ala	Cys	Lys	Leu	Lys	His	Thr	Thr	Cys	Thr
	130				135						140				
Asp	Tyr	Ile	Ile	Ser	Leu	Arg	Ser	Asp	Asp	Met	Ser	Arg	Arg	Ser	Gln
145					150					155					160
Ala	Tyr	Val	Gly	Lys	Val	Arg	Ser	Asn	Phe	Leu	Gly	Thr	Lys	Phe	Thr
				165					170					175	
Val	Phe	Asp	Gly	Asn	Leu	Leu	Pro	Ser	Thr	Gly	Ala	Ala	Lys	Leu	Arg
			180					185					190		
Lys	Ser	Arg	Ser	Tyr	Asn	Pro	Ala	Lys	Val	Ser	Ala	Lys	Val	Pro	Leu
		195					200					205			
Gly	Ser	Tyr	Pro	Val	Ala	His	Ile	Thr	Tyr	Glu	Leu	Asn	Val	Leu	Gly
		210				215					220				
Ser	Arg	Gly	Pro	Arg	Lys	Met	Gln	Cys	Leu	Met	Asp	Thr	Ile	Pro	Thr

225									230									240
Ser	Thr	Met	Glu	Pro	Gln	Gly	Val	Ala	Ser	Glu	Pro	Ser	Glu	Phe	Pro			
				245					250					255				
Leu	Leu	Gly	Thr	Arg	Ser	Thr	Leu	Ser	Arg	Ser	Gln	Ser	Lys	Pro	Leu			
				260					265					270				
Arg	Ser	Ser	Ser	Ser	His	Leu	Lys	Glu	Thr	Pro	Leu	Val	Leu	Ser	Asn			
				275					280					285				
Lys	Thr	Pro	Arg	Trp	His	Glu	Gln	Leu	Arg	Cys	Trp	Cys	Leu	Asn	Phe			
				290					295					300				
His	Gly	Arg	Val	Thr	Val	Ala	Ser	Val	Lys	Asn	Phe	Gln	Leu	Val	Ala			
305					310					315					320			
Ala	Gly	Ala	Ser	Cys	Gly	Ser	Gly	Thr	Gly	Met	Ser	Pro	Glu	Arg	Gln			
				325					330					335				
Ser	Glu	Arg	Ile	Ile	Leu	Gln	Phe	Gly	Lys	Val	Gly	Lys	Asp	Met	Phe			
				340					345					350				
Thr	Met	Asp	Tyr	Gly	Tyr	Pro	Ile	Ser	Ala	Phe	Gln	Ala	Phe	Ala	Ile			
				355					360					365				
Cys	Leu	Ser	Ser	Phe	Glu	Thr	Arg	Ile	Ala	Cys	Glu							
				370					375					380				

```
<210> 12
<211> 1365
<212> DNA
<213> Arabidopsis sp.
```

<400> 12						
atgtcgttcc	gtagcatagt	tcgtgatgtg	agagatagta	taggaagtct	atcgaggcgt	60
agtttcgact	ttaagttaag	cagcttgaac	aaagaagggtg	gtaaatcccg	tggttcggtt	120
caagattctc	atgaggaaca	acttgtagta	acgattcaag	aaacaccgtg	ggcgaatcta	180
cctccagagt	tattacgtga	tgtgatcaaa	agacttgaag	agagtgaaag	tgtgtggcct	240
gctcgtagac	atgttggtgc	ttgtgcttct	gtttgcaggt	catggagaga	tatgtgtaaa	300
gagattgttc	aaagtccgga	gctctcaggc	aaaatcacat	ttcctgtttc	gttgaaacag	360
cctggaccaa	gagatgcaac	aatgcaatgc	tttatcaaaa	gggataaatc	taacttgact	420
tatcatttat	atctttgtct	cagtcctgct	ttggttggtg	agaatggaaa	gtttcttctt	480
tctgcaaaac	gcataagaag	aactacatac	accgagtacg	tgatctctat	gcacgccgac	540
accatttcga	gatcaagcaa	tacctacatt	ggcaaaatca	ggtctaattt	tctggggacg	600
aagttttataa	tatacgatac	acaaccagca	tacaacagca	acatcgctcg	agcggtccaa	660
ccggtagggtc	ttagccgcag	attctactca	aagagagtct	ctcccaaagt	acctagtggg	720
agctacaaaa	ttgcgcgagg	ttcttatgag	ctaaacgttc	ttggtacctg	tggtccgagg	780
agaatgcatt	gtgcgatgaa	ctcaattccc	gcctcttccc	ttgcggaagg	cggaaactgtg	840
cctggacagc	ccgatatcat	tgtcccgcgc	tctattctcg	acgaatcggt	ccgcagcatt	900
acctcttcgt	catcgagaaa	aatcacttac	gattactcga	atgattttag	cagtgcacgg	960
ttttccgaca	ttcttggtccc	gttaagcgaa	gaccaagaag	tggtattaga	agaagggaaa	1020
gagcggaaat	cgccaccact	tgtgcttaag	aacaagccgc	cgaggtggca	tgaacagctt	1080
cagtggttgg	gtttaaactt	caggggacgt	gtaacagtcg	catcagttaa	gaactttcag	1140
ctcattgccg	caaaccaacc	acagctctag	cctcagcctc	aaccgcaacc	tcaacccta	1200
actcagccgc	aaccgtctgg	tcagaccgat	ggtcccgcga	agatcatatt	gcagtttggg	1260
aaagtgggaa	aagacatggt	cacgatggat	ttccggtatc	cgctctctgc	gtttcagggt	1320
ttcgctatct	gtttgagcag	tttcgacaca	aaacttgctt	gcgaa		1365

```
<210> 13
<211> 1182
<212> DNA
<213> Arabidopsis sp.
```

<400> 13
atgtcttttga aaaqcatcct tcgtgatctg aaggaagtga gggatggact tggaggcatc 60

tccaagagaa	gctgggtcaaa	gtcgtctcac	attgctcctg	atcaaacaac	tccaccactg	120
gataacatac	cacagagccc	atgggcttct	ttgccgcctg	agttgcttca	tgacattatc	180
tgaggagggtg	aagagagtga	gacagcttgg	cccgcctcgag	ctgccgttgt	ctcttggtgct	240
tcagtatgta	aatcatggag	aggaatcact	atggagattg	tgaggatccc	tgagcagtgt	300
gggaagctca	cttttccaat	ctcattgaaa	cagccggggc	ctcgagactc	tccaattcaa	360
tgttttatta	agaggaacag	agcaacagct	acatacattc	tctattatgg	tttgatgcct	420
tcggagactg	agaacgacaa	actgttggtt	gcagcaagaa	ggattagaag	agcgacatgc	480
acagacttta	taatctccct	atctgcaaag	aacttctcac	ggagcagcag	tacttatggt	540
ggcaaattaa	ggtctggttt	tctgggaacc	aagttcacaa	tatatgacaa	ccaaacagca	600
tcattccacag	cacaagccca	acctaaccga	agactccacc	cgaaacaagc	ggctcctaaa	660
ctacctacga	atagctctac	cgtaggaaac	ataacctacg	agctcaatgt	tcttcgcaca	720
aggggaccta	gaagaatgca	ctgcgctatg	gattctatac	ccctctcttc	tgttattgct	780
gaaccgtcag	tagttcaagg	catagaagag	gaagtctctt	cctctccttc	accaaaaagga	840
gaaacctatc	caacagacaa	agagattcct	gataattctc	caagcttaag	ggaccaaccg	900
ctagtcttca	aaaacaaatc	cccaagatgg	catgagcagt	tgcaagtgtg	gtgcctcaac	960
ttcaagggaa	gagtgcactgt	ggcttcagtt	aagaatttcc	agcttggtgc	agagattgac	1020
gcttcttttg	atgcgcgcgc	tgaagaacat	gagaggggtg	tcttacagtt	tggcaaaatc	1080
ggtaaggata	ttttaccat	ggattatcgc	taccctctat	ctgcttttca	agcctttgct	1140
atatgcatta	gcagctttga	caccaaaccg	gcattgtgaag	gg		1182

<210> 14

<211> 1218

<212> DNA

<213> Arabidopsis sp.

<400> 14

atgtccttca	agagtctcat	tcaggacatg	agaggagagc	ttgggagtat	atccagaaaag	60
ggattcagatg	tcagattcgg	gtatggtaga	tccagggtctc	aacgtgttgt	tcaggataact	120
tctgttccctg	ttgatgcttt	caagcagagc	tgctgggcta	gtatgcctcc	ggagctcctg	180
agagatgttc	ttatgaggat	tgagcaatcc	gaagacactt	ggccgtctag	gaaaaatgtt	240
gtttcttgcg	ctggtgtctg	caggaactgg	cgagaaatcg	tcaaagagat	cgtcagagtt	300
cctgagcttt	ctagcaaact	cacttttctt	atctccctca	aacagccggg	tcctagagga	360
tcacttggtt	aatgctatat	tatgagaaac	cgagcaatc	aaacctacta	tctatacctc	420
gggttaaacc	aagcagcttc	aaatgatgat	ggaaaagtcc	ttcttgctgc	caagagggtt	480
cggaggccaa	cttgactga	ctacatcatc	tccttaaaact	gcgatgatgt	ctctcgagga	540
agcaataacct	atatcggaac	gcttagatct	aactttctgg	ggaccaagtt	cactgtctat	600
gacgtcagc	cgacgaatcc	tggaactcag	gttaccagaa	cccgttcaag	cagacttctc	660
agtttgaaac	aagtgcgccc	gagaattcca	tctggcaact	atcctgtagc	acatatctca	720
tatgagctta	acgtcttggg	ttccagagga	ccgaggagga	tgcaagtgtg	catggatgcc	780
atccctgcat	cagctgtaga	acctggagga	acagctccaa	ctcagacgga	acttgtccat	840
agcaatcttg	atagtttccc	ctcattctcc	ttcttcaggt	cgaaatcaat	tcgtgcagag	900
agtctccctt	ctggtccatc	atctgctgct	cagaaggaag	gactgcttgt	cctgaaaaac	960
aaagcgccca	gatggcacga	acagctccag	tgctggtgcc	tcaacttcaa	tgggagagtc	1020
acagttgctt	ccgtcaaaaa	ctttcagctg	gtagctgctc	ctgagaatgg	acctgcagga	1080
cctgagcacg	aaaacgtgat	tctccagttt	ggaaaagtgc	gaaaagatgt	gttcacaatg	1140
gattatcagt	accctatctc	tgccctccag	gccttcacca	tttgccctcag	cagtttcgac	1200
accaagatag	catgtgaa					1218

<210> 15

<211> 795

<212> DNA

<213> Arabidopsis sp.

<400> 15

atgcctcctg	agcttctgag	agatgttctg	atgaggatag	agcgatccga	agacacttgg	60
ccttctagga	agaatgttgt	ttcttggtga	ggtgtgtgta	agaactggcg	acaaatattc	120
aaagagatcg	ttaacgttcc	tgagggttct	agcaaattca	cttttccaat	ctccttgaaa	180

cagcctgggc	caggaggatc	acttggtcaa	tgctatgtta	agagaaaccg	tagcaatcaa	240
actttctatc	tataccttgg	aggtgaagca	aaaatatatt	gtcagtcctga	accaagtgat	300
atztatctcg	ttccttacag	ttacagagag	acgcattgcg	tcatggatgc	catctctgca	360
tcagcagtaa	aacctggagg	aacagctaca	actcagacag	aactcgataa	tttcgtgtca	420
ttcaggtctc	cttctgggtca	aaaggaagga	gtgcttggtc	ttaagagcaa	agtgcctaga	480
ttggaagaac	agagctgggtg	tctcgacttc	aatggctctc	ctgagaacga	acctgagaat	540
gaaaacgaca	ttttccagtt	tgcgaaagtc	ggaaacttgc	acaaactctt	cagttttatat	600
gaggctgaat	ggattcctct	cgttcgcacc	tcagtgtttg	ctgtcattgc	tcgagtttgt	660
agagataaaa	agcatacacc	atcgtatgaa	ttgaaacttg	cattgtactt	tgcaaaaaac	720
tctgcaatcc	tcaagaaatt	cgttctccgc	ggttacactc	gagaagaaga	tttactcgca	780
ttgcccgtgg	ctaac					795

<210> 16

<211> 1287

<212> DNA

<213> Arabidopsis sp.

<400> 16

atgtcgtttc	tgagtattgt	tcgtgatgtt	agagatactg	taggaagctt	ttcgagacgt	60
agtttcgacg	tgagagtatc	taatgggacg	actcatcaga	ggagtaaata	tcacgggtgtt	120
gaggcacata	ttgaagatct	tattgtaatc	aagaacactc	gttgggctaa	tttaccggct	180
gcgctattac	gagatgtgat	gaaaaagttg	gatgaaagcg	agagtacttg	gcctgcacgt	240
aaacaagtcg	ttgcttggtc	tggtgtctgc	aagacatgga	gactaatgtg	caaagatatt	300
gtgaaaagtc	ctgagttctc	aggcaaaactc	acatttccag	tttcgttgaa	acagcccggg	360
cctagggatg	gaatcataca	atgttatatc	aaaagagaca	agtctaaca	gacttaccac	420
ctttaccttt	ctcttagtcc	tgccataact	gttgaaagtg	ggaagtttct	tctctcggca	480
aagcgctcac	ggagagctac	atacacagag	tatgtaatat	caatggatgc	agacaacatt	540
tcaagatcaa	gcagcactta	cattggcaaa	ctgaagtcta	actttctagg	gacaaaattt	600
atagtatatg	atacggctcc	tgcgtaaca	agtagccaga	tattgtcccc	accaaaccgg	660
agtcgtagtt	tcaactccaa	gaaagtgtct	cccaaagtc	cttctggaag	ttacaacatt	720
gctcaagtta	catacgagct	gaacttgctt	ggaaccctg	gacctcgtag	aatgaactgc	780
attatgcact	ctatcccctc	cttagctcta	gaaccggag	gtactgtccc	tagccaacct	840
gagtttctac	aacgtttcct	tgatgaatct	ttccgcagca	tcggttcctc	aaagatagtc	900
aaccactcgg	gagatttcac	ccgaccgaaa	gaggaagaag	gaaaggtgcg	acctttggta	960
ctgaaaacta	aaccgccaag	gtggctccaa	ccgttgcgat	gttggtgcct	taacttcaaa	1020
gggagagtga	ctgtagcttc	tgtcaagaac	ttccagttga	tgtccgctgc	aacggttcag	1080
cccggtagtg	gtagtgatgg	tggagcattg	gctacgaggc	catcgttatc	accacagcag	1140
ccagagcaat	caaaccatga	taagataata	ctacactttg	ggaaagtggg	taaggatatg	1200
ttcactatgg	actatcggtt	tcctctctct	gcctttcaag	cgtttgccat	ttccctgagc	1260
acctttgata	ctaaattggc	atgtgaa				1287

<210> 17

<211> 1164

<212> DNA

<213> Arabidopsis sp.

<400> 17

atgtcattga	agaacatagt	gaagaacaaa	tacaaagcta	ttggtagaag	agggaggtca	60
cacattgcac	cagaaggatc	atctgtgtct	tcttctttat	caactaatga	aggtttaaac	120
cagagtattt	gggttgattt	gcctccagag	ttacttcttg	atataatcca	aaggattgag	180
tctgaacaga	gtttatggcc	ggggaggaga	gatgttggtg	cttgtgcttc	ggtttgtaa	240
tcattggagg	agatgactaa	agaagtgtgt	aaagtctctg	agctctctgg	tttgatcacg	300
tttccgattt	ctttaagaca	gcctggacct	agagatgctc	caattcaatg	ctttattaaa	360
cgtgaaagag	ctacggggat	ataccgtctc	tatcttggtt	taagccctgc	tctttccggt	420
gacaagagta	agttgttggt	atctgcaaag	agagtcagga	gagcgacggg	tgcgaggttt	480
gttgatcgt	tatcggggaa	tgacttctcg	agaagtagta	gtaattacat	aggaaaactg	540
agatcaaatt	tcctgggaac	gaagttcaca	gtctacgaaa	accaacctcc	tccgtttaac	600

cgaaagctcc	caccatcgat	gcaagtgtct	ccatgggtat	cgtcgctcatc	tagtagttac	660
aacatagctt	caatcttgta	tgagctgaat	gttctgagaa	ccagaggtcc	aagaagaatg	720
caatgtataa	tgacacagtat	cccgatttca	gcgattcaag	aaggcggcaa	aatccagtcg	780
ccaacggagt	tcacaaacca	aggaaagaag	aagaagaagc	cgctgatgga	tttctgctca	840
gggaacctgg	gaggagaatc	cgttataaaa	gaaccattaa	ttctgaaaaa	caagtcgccg	900
agatggcacg	aacagcttca	gtgctgggtg	ctaaacttca	aaggtcgagt	cacagtcgcc	960
tcggtgaaaa	acttccagct	agtggcagct	gctgcagaag	caggaagaa	catgaacata	1020
ccagaagagg	aacaagatag	agtgatatta	cagtttgga	agataggcaa	agacattttc	1080
acaatggatt	atcgttaccc	gatctctgca	ttccaagctt	ttgctatttg	tttaagcagc	1140
ttcgacacga	agccagtctg	cgaa				1164

<210> 18

<211> 1137

<212> DNA

<213> Arabidopsis sp.

<400> 18

atgcctttgt	cacggctcct	ccttttcgcg	aggatctcga	actcttttag	gtttcatcag	60
ggagagacaa	cgacggcacc	ggaatccgaa	tcgattcctc	cgccgctcga	tatggccggt	120
tcttcgctcat	ggctggcgat	gctccctgaa	ttattaggcg	agatcattcg	tcgctgggag	180
gagactgagg	accgttggcc	tcaacgctcg	gatgtagtta	cttgcgcttg	cgtttctaag	240
aaatggagag	aaatcactca	cgatttcgct	agatcctctc	ttaactctgg	caaaattact	300
ttcccttctt	gcctcaaatt	gccaggctct	agagactttt	ctaactcagt	cttgataaag	360
aggaacaaga	agacatcaac	gttttacttg	tatcttgctc	taacaccatc	attcactgat	420
aagggaaagt	ttcttctggc	ggcgcgagg	tttaggaccg	gtgcttacac	tgagtacatc	480
atatcacttg	atgctgatga	tttctctcaa	ggaagtaatg	cctacgtcgg	aaaattaaga	540
tcagattttc	ttgggaccaa	ctttacagta	tacgatagcc	aaccaccaca	caacggagca	600
aaaccttcaa	atggcaaagc	cagtcgcaga	tttgcacaa	agcagataag	ccctcaagtt	660
ccagcaggca	actttgaagt	cggtcatgtt	tcttataaat	tcaacctttt	gaaatcaaga	720
ggtccaagaa	gaatggtaag	cacactccga	tgcccatcac	catcaccttc	atcatcatcc	780
gctggactct	cgtctgacca	aaagccatgt	gatgtaacca	agataatgaa	aaaacccaac	840
aaggatgggt	ccagcttgac	aataactaaag	aacaaagctc	ctagatggca	cgagcacttg	900
cagtgcgtgt	gtctgaactt	ccatggacga	gttactgttg	cttcggtcaa	gaactttcag	960
ctggttgcga	ccgttgacca	aagtcaaccg	agcggtaaag	gcgatgaaga	aacagttctt	1020
ctacagtttg	gtaaagtggg	agatgacact	ttcactatgg	attatagaca	gcctctctct	1080
gcatttcagg	cttttgctat	ctgtctcaca	agtttcggca	ctaaacttgc	ctgcgag	1137

<210> 19

<211> 1191

<212> DNA

<213> Arabidopsis sp.

<400> 19

atggctgggt	cgagaaaagt	gaatgatttg	ttggaggaaa	ataagggaaa	tgtggacaca	60
attacaggg	ctttatccac	tcaaaaggga	gaggataagg	agaatgtgtc	gccggagaaa	120
gtctctacct	ctgtggaaac	tcggaaacta	gatcgagctt	tgaagtctca	atcgatgaag	180
ggtaactctg	ggtttccaac	ggaagttaca	aatttcaa	ctttctcaac	tggtggctga	240
acagctctga	agcagtcatc	actgcaagcg	tgtatgcaga	agaacagtga	ggttgataag	300
agtagtttcg	gaatgaaaac	ttggactagt	gttgattcag	agcattcaag	ttcgttgaaa	360
gtgtgggagt	tttcggattc	tgaagctgcc	cctgcttcct	cttgggtctac	tttgcccaac	420
agggctttgt	tgtgcaagac	actacctttg	gatgtgggaa	gatgcacttg	tctgattgtg	480
aaagaacaat	cacctgaagg	cttgagccac	ggatctgtat	attcacttta	tacacatgaa	540
ggtcgggggc	gtaaagaccg	gaagtttagca	gttgcttacc	atagccgacg	taatgggaaa	600
tctatattta	gggtggcaca	gaatgttaag	ggattgctgt	gcagttcgga	tgaaagtatt	660
gtcggttcca	tgacggctaa	tctcttgggt	tccaagtact	acatatggga	caaggaggtt	720
cgagttgggt	ctgtaggtaa	aatgggtgaag	ccgcttcttt	cgggttgtaat	attcacaccc	780
accataacaa	cttgagcagg	gagctacaga	agaatgagaa	ctttgctacc	aaagcagcag	840

ccaatgcaga	aaaacaacaa	taagcaggtt	caacaagcta	gtaaactacc	gcttgattgg	900
cttgagaata	aggaaaaaat	tcagaagcta	tgctcaagga	taccacatta	caacaaaatc	960
tccaagcagc	atgagttaga	cttcagagac	agaggaagaa	caggactgag	aatacagagc	1020
tcggtgaaga	actttcagct	aacactcacg	gagactccaa	ggcagacaat	tcttcaaattg	1080
gggagagttg	acaaagcaag	atatgtaatc	gacttcaggt	atccattctc	aggctaccaa	1140
gcattctgca	tttgcttggc	ttctattgat	tccaagcttt	gttgtactgt	t	1191

<210> 20

<211> 1140

<212> DNA

<213> Arabidopsis sp.

<400> 20

atgacgttcc	gaagtttact	ccaggaaatg	cgggtctaggc	cacaccgtgt	agttcacgcc	60
gccgcctcaa	ccgctaatag	ttcagaccct	ttcagctggg	cggagctccc	ggaggagctg	120
cttagagaaa	tcctgattag	ggttgagact	ggtgacggcg	gcgattggcc	gtcgcggcga	180
aacgtgggtg	cttgtgccgg	cgtttgctgt	agctggagga	ttctcaccaa	ggagattgta	240
gctgttcctg	aattctcttc	taaattgact	ttccctatct	ccctcaagca	gtctgggtcca	300
agagattctc	tagttcaatg	ctttataaaa	cgtaatcgaa	atactcaatc	gtatcatctc	360
tatctcggat	taactacctc	tttgacggat	aacgggaagt	ttcttcttgc	tgcttctaag	420
ctgaagcgcg	caacttgcac	tgattacatc	atctctttgc	gttcagacga	tatctcaaag	480
agaagcaacg	cgtatcttgg	gagaatgaga	tcgaacttcc	ttggaacaaa	attcacggtc	540
tttgatggta	gtcagaccgg	agcagcgaag	atgcagaaga	gccgctcttc	taatttcac	600
aaagtttcac	ctagagttcc	tcagggaagt	taccccatcg	ctcacatttc	atacgagtta	660
aacgtcttag	gctctcgggg	accgagaaga	atgcgttgca	tcattggatac	aatacctatg	720
agcatcgtgg	agtcgcgagg	agtagtagct	tcaacatcca	taagctcttt	ttccagtcgg	780
tcattcaccag	tcttttaggtc	tcactcaaaa	ccattgcgca	gtaatagtgc	atcatgtagc	840
gactcaggca	acaacctggg	agatccacca	ttggtgctga	gcaacaaagc	tccacgggtg	900
catgagcagt	tacgttgctg	gtgcttaaat	ttccatgggtc	gagtcacagt	ggcttcgggt	960
aagaactttc	agcttggtgg	agtttagtgac	tgtgaagcag	ggcagacatc	tgagaggatc	1020
atactccagt	ttgggaaagt	tgggaaggac	atgtttacca	tggattatgg	atatccgatt	1080
tctgcggttc	aagcgtttgc	tatctgcctg	agcagttttg	aaaccagaat	tgctgtgtaa	1140

<210> 21

<211> 1335

<212> DNA

<213> Arabidopsis sp.

<400> 21

atgtcggttc	gaggcattgt	tcaagatttg	agagatgggt	ttgggagctt	gtcaaggagg	60
agtttcgatt	ttaggtcttc	gagtcctcat	aaagggaaag	ctcagggttc	ttcgttccgt	120
gagtattcgt	catcccgtga	tctcttgctg	cctgtgatag	ttcagacaag	tagatgggct	180
aatcttcctc	cagagttact	ctttgatgtg	atcaaaaagat	tagaggaaag	tgagagtaat	240
tggcctgcaa	gaaaacatgt	tgtggcttgt	gcttcgggtt	gtcggctctg	gagagctatg	300
tgccaagaga	ttgttttggg	gcctgaaatc	tgtgggaaac	tcactttccc	tgtttccctc	360
aaacagccag	ggcctcgtga	tgcaatgatt	cagtgtttca	tcaaaaggga	taaatcaaag	420
ctaacttttc	acctttttct	ttgtttaagt	cccgtcttat	tagtggagaa	tgggaaattt	480
cttctttcag	ctaaaagaac	tcgtagaact	actcgaaccg	agtacattat	ctccatggat	540
gctgataaca	tctcaagatc	cagcaactct	tacctcgga	agctcagatc	aaacttcctt	600
gggacaaagt	tcttggtgta	cgacacgcaa	ccaccaccaa	acacatcttc	gagcgcactt	660
atcactgata	gacaagccg	aagcaggttt	cactccagac	gagtttctcc	taaagtacca	720
tccggaagct	acaacattgc	tcaaatcacc	tatgagctca	acgtgttggg	cacacgcggg	780
ccacgacgaa	tgactgcat	catgaactcc	atcccaattt	catcgctcga	accaggcggg	840
tcagtcctta	accaaccgga	gaaactcgtc	cctgcaccat	actctctcga	cgactcatte	900
cgcagtaaca	tctccttctc	caaatcatca	tttgaccacc	gctccctcga	tttcagcagt	960
tctagattct	ccgaaatggg	aatatcctgc	gacgacaacg	aagaagaagc	gagtttcaga	1020
ccgttgattc	taaagaacaa	gcagccaagg	tggcacgagc	agttgcaatg	ctgggtgttg	1080

aatttccgcg	gacgtgtgac	agttgcatcg	gttaagaatt	tccagcttgt	agcagcaaga	1140
cagccgcagc	ctcaagggac	aggtgcagca	gcagcaccaa	caagtgcacc	tgctcaccct	1200
gagcaagaca	aggtgattct	ccagtttggg	aaagtaggga	aagatatgtt	cacaatggac	1260
tataggtatc	cattatcggc	gtttcaggcg	tttgcgatat	gcttaagcag	ctttgacacc	1320
aagcttgctt	gtgaa					1335

<210> 22

<211> 1140

<212> DNA

<213> Arabidopsis sp.

<400> 22

atgcgttcga	gaccgcatcg	tgtggtccac	gaccttgccg	ccgccgcagc	tgccgattcc	60
acttctgtgt	catcgcaaga	ttatcgctgg	tcagagattc	ctgaagagct	tcttagggag	120
attctgattc	gtgttgaagc	ggcggacggt	ggcggatggc	cgtcacgacg	cagcgtgggtg	180
gcttgtgccg	gcgtttgtcg	tggctggcgg	ctacttatga	acgaaaccgt	cgttgtccct	240
gagatctctt	ctaagttgac	tttccccatc	tctctcaagc	agcctggtcc	aagggattca	300
ctggttcaat	gctttatcaa	acgtaatcga	attacgcaat	catatcatct	ctatctcgga	360
ttaaccaact	ctttaacgga	tgatgggaag	tttttgcttg	ctgctgtaa	gttgaagcac	420
acaacttgta	cggattacat	tatctcttta	cgttctgatg	atatgtcgag	aagaagccaa	480
gcttatgttg	gcaaagttag	atcgaacttc	ctaggaacga	aattcactgt	ctttgatgga	540
aatctgctgc	cttcaacggg	agccgcaaag	ttgagaaaga	gccgatctta	taatcccgca	600
aaagtttcag	caaaagttcc	tcttggaagt	tatcctgtcg	ctcatatcac	atatgagctg	660
aatgtcttag	gatcccgggg	accaagaaag	atgcaatgtc	ttatggacac	aatacctaca	720
agcacaatgg	agcctcaagg	agtagcttca	gaaccatcag	agtttccctt	actcgggtact	780
cggtcacact	tatccagggtc	tcagtcaaaa	ccattacgca	gtagctcaag	ccacctgaaa	840
gaaacaccat	tagtgctgag	caacaagaca	ccacgggtggc	acgagcagct	acgctgctgg	900
tgcttgaatt	tccatggccg	tgtcacagta	gcgtcagtga	agaactttca	gctcgtggca	960
gcaggagcta	gctgtggcag	tggcacggga	atgtcaccgg	agaggcagag	cgagcggatt	1020
atattgcagt	ttgggaaagt	cgggaaagat	atgttcacga	tggattatgg	ataccgatc	1080
tcagctttcc	aggcttttgc	catttgcttg	agcagctttg	agactagaat	cgcttgtgaa	1140

<210> 23

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 23

atgtcgttcc	gtagcatagt	tcgt	24
------------	------------	------	----

<210> 24

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 24

ttattcgcaa	gcaagttttg	tgtag	25
------------	------------	-------	----

<210> 25

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 25

atgtctttga aaagcatcct tcgtgatc

28

<210> 26

<211> 28

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 26

ttacccttca catgccggtt tgggtgtca

28

<210> 27

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 27

atgtccttca agagtctcat tcag

24

<210> 28

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 28

tcattcacat gctatcttgg tgtc

24

<210> 29

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 29

atgtcgtttc tgagtattgt tcg

23

<210> 30

<211> 23

<212> DNA

<213> Artificial Sequence

<220>
 <223> Primer

 <400> 30
 ttattcacat gccaathtag tat 23

 <210> 31
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 31
 atgtcattga agaacatagt gaa 23

 <210> 32
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 32
 tcattcgag actggcttcg tgt 23

 <210> 33
 <211> 21
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 33
 atgcctttgt cacggtcct c 21

 <210> 34
 <211> 22
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 34
 tcactcgag gcaagtttag tg 22

 <210> 35
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

<400> 35
 atggctggtt cgagaaaagt gaa 23

 <210> 36
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 36
 tcaaacagta caacaaagct tgg 23

 <210> 37
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 37
 atgacgttcc gaagtttact cca 23

 <210> 38
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 38
 ttattcacag gcaattctgg ttt 23

 <210> 39
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 39
 atgtcgtttc gaggcattgt tca 23

 <210> 40
 <211> 23
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 40

ctattcacaa gcaagcttgg tgt 23

<210> 41
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 41
 atgtcgtttc tgagtattgt tcg 23

<210> 42
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 42
 ttattcacat gccaathtag tat 23

<210> 43
 <211> 23
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 43
 atttctcaaa atcttaaaaaa ctt 23

<210> 44
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 44
 tgatagtttt cccagtcaac 20

<210> 45
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 45
 atgacgttcc gaagtttact c 21

<210> 46
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 46
 tggttcacgt agtgggccat c 21

<210> 47
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 47
 ttattcacag gcaattctgg t 21

<210> 48
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 48
 tggttcacgt agtgggccat c 21